ELSEVIER

*Polymer Degradation and Stability* **45** (1994) 443–445
© 1994 Elsevier Science Limited
Printed in Northern Ireland. All rights reserved

# Contents of Volume 45

## Number 1

1 Photoacoustic infrared spectroscopy for evaluation of an ABS as an automotive interior material
R. O. CARTER III & J. B. McCALLUM (USA)

11 Radiation-induced degradation of poly(3-hydroxybutyrate) and the copolymer poly(3-hydroxybutyrate-*co*-3-hydroxyvalerate)
HIROSHI MITOMO, YUHEI WATANABE, ISAO ISHIGAKI & TERUMI SAITO (Japan)

19 Effect of aluminium chloride on the thermal degradation of poly(vinyl chloride)
MIKAEL ROGESTEDT & THOMAS HJERTBERG (Sweden)

27 Inhibition of degradation in styrene-based thermoplastic elastomers by hydrogen-donating hydrocarbons
JUNICHI KUBO, HIROYUKI ONZUKA & MITSUO AKIBA (Japan)

39 Long-term photoageing of soluble polyamides used in conservation or in modern sculptures
DOMINIQUE FROMAGEOT & JACQUES LEMAIRE (France)

47 The thermo-oxidative degradation of polystyrene
I. C. McNEILL (UK), L. P. RAZUMOVSKII, V. M. GOL'DBERG & G. E. ZAIKOV (Russia)

57 Thermal stability and degradation of aromatic polyamides. Part 2. Structure–reactivity relationships in the pyrolysis and hydrolysis of benzamides
LINDA J. BROADBELT, ANDREW CHU & MICHAEL T. KLEIN (USA)

71 The recovery of photodegraded low density polyethylene from green houses and solars (S-LD-PE). III. Rheological properties of the melts of certain blends based on S-LD-PE
DOINA STAICU & HORIA PAVEN (Romania)

77 Polyaniline salt films after deprotonation: structural differences from pristine emeraldine base
K. G. NEOH, E. T. KANG & K. L. TAN (Singapore)

83 The thermolysis of poly(methyl methacrylate) in the presence of phenyltin chlorides $Ph_xSnCl_{4-x}$ ($x = 1$–3)
JAYAKODY A. CHANDRASIRI & CHARLES A. WILKIE (USA)

91 Thermal degradation of poly(methyl methacrylate) in the presence of tin (IV) chloride and tetraphenyltin
JAYAKODY A. CHANDRASIRI & CHARLES A. WILKIE (USA)

97 The effect of some transition metal chlorides on the thermal degradation of poly(methyl methacrylate): a study using TGA-FTIR spectrometry
JAYAKODY A. CHANDRASIRI, DEAN E. ROBERTS & CHARLES A. WILKIE (USA)

103 Thermal dehydrochlorination and stabilization of poly(vinylchloride) in solution. Part XI. Synergism between dialkyltin thioglycolates and organic costabilizers
C. GARRIGUES, A. GUYOT & V. H. TRAN (France)

111 Thermal dehydrochlorination and stabilization of poly(vinylchloride) in solution. Part XII. Tin–calcium–zinc interactions
C. GARRIGUES, A. GUYOT & V. H. TRAN (France)

115 Thermal degradation of some transition metal (cobalt, nickel and copper) salts of poly(methacrylic acid)
THE LATE MOHAMMAD ZULFIQAR, RIZWAN HUSSAIN, SHAGUFTA ZULFIQAR, DIN MOHAMMAD (Pakistan) & I. C. McNEILL (UK)

121 Recycling poly(ethyleneterephthalate)
FRANCESCO P. LA MANTIA & MICHELE VINCI (Italy)

127 The chemistry of $\gamma$-irradiated bisphenol-A polycarbonate
A. FACTOR, J. C. CARNAHAN, S. B. DORN & P. C. VAN DORT (USA)

139 Evaluation of crosslinked poly(caprolactone) as a biodegradable, hydrophobic coating
M. F. KOENIG & S. J. HUANG (USA)

145 Photoageing of polyolefins. I. Photolysis of low molecular weight hydroperoxide at $\lambda \geq 300$ nm
G. TEISSÈDRE, J. F. PILICHOWSKI & J. LACOSTE (France)

**Note**

155 Accelerated radiation-induced degradation of polystyrene containing flame-retardant agents
AYAKO TORIKAI, HITOSHI KATO & YUJI SUZUKI (Japan)

159 Book review

161 Calendar of events

**Number 2**

**Special Issue: Environmentally Degradable Polymers**

163 Guest editorial

165 Degradation methods and degradation kinetics of polymer films
D. L. KAPLAN, J. M. MAYER, M. GREENBERGER, R. GROSS & S. McCARTHY (USA)

173 Spectroscopic and mechanical changes in irradiated starch-filled LDPE
A.-C. ALBERTSSON (Sweden), G. J. L. GRIFFIN (UK), S. KARLSSON (Sweden), K. NISHIMOTO & Y. WATANABE (Japan)

179 Enzymatic degradation of microbial poly(3-hydroxyalkanoates)
YUOKO KANESAWA, NAOKI TANAHASHI, YOSHIHARU DOI & TERUMI SAITO (Japan)

187 Chemical, enzymatic and microbial degradation of bacterial and synthetic poly-$\beta$-hydroxyalkanoates
R. H. MARCHESSAULT, C. J. MONASTERIOS, J. J. JESUDASON, B. RAMSAY, I. SARACOVAN, J. RAMSAY (Canada) & T. SAITO (Japan)

197 Enzymatic degradation of blends containing poly(3-hydroxybutyrate-co-3-hydroxyvalerate)
S. P. McCARTHY, P. DAVE, T. JAHEDI, D. EBERIEL & R. GROSSE (USA)

205 Enzymatic degradation of plastics containing polycaprolactone
AKIRA IWAMOTO & YUTAKA TOKIWA (Japan)

215 Water-soluble polymers
G. SWIFT (USA)

233 Biodegradability and builder performance in detergents of poly(sodium carboxylate) containing glycopyranose residues in the backbone
SHUICHI MATSUMURA & SADAO YOSHIKAWA (Japan)

241 Starch polymer blends
G. J. L. GRIFFIN (UK)

249 Poly(alkylene tartrates) as controlled release agents
LAURA J. DiBENEDETTO & SAMUEL J. HUANG

259 Calendar of events

**Number 3**

261 Preparation and biodegradation of polycaprolactone–paper composites
SHIN-ICHI AKAHORI & ZENJIRO OSAWA (Japan)

267 Concentration dependence of DC conductivity of Pd polyacrylates
S. U. REHMAN, F. A. KHWAJA, A. UL HAQ & M. S. ZAFAR (Pakistan)

273 Synthesis and characterization of copolymers of 2-(dimethylamino)ethyl acrylate with 2-acrylamido-2-methylpropanesulphonic acid
Y. A. AGGOUR (Egypt)

277 Aspects of the inhibition of post-cure photo-yellowing of novel amine-diacrylate-terminated ultraviolet- and electron-beam-cured TMPTA-based coatings
N. S. ALLEN, D. LO & S. SALIM (UK)

285 Thermal degradation studies of methacrylonitrile polymers and copolymers. 1. Polymethacrylonitrile prepared using normal free radical initiators
I. C. McNEILL & T. MAHMOOD (UK)

293 The radiation chemistry of poly(arylene ether phosphine oxide)s
JEFFERSON L. HOPEWELL, DAVID J. T. HILL, JAMES H. O'DONNELL, PETER J. POMERY (Australia), JAMES E. McGRATH, DUANE B. PRIDDY JR & CARRINGTON D. SMITH (USA)

301 Degradation and stabilization of poly(vinyl chloride). I. Kinetics of the thermal degradation of poly(vinyl chloride)
RADU BACALOGLU & MICHAEL FISCH (USA)

315 Degradation and stabilization of poly(vinyl chloride). II. Simulation of the poly(vinyl chloride) degradation processes initiated in the polymer backbone
RADU BACALOGLU & MICHAEL FISCH (USA)

325 Degradation and stabilization of poly(vinyl chloride). III. Correlation of activation enthalpies and entropies for dehydrochlorination of chloroalkanes, chloroalkenes and poly(vinyl chloride)
RADU BACALOGLU & MICHAEL FISCH (USA)

339 Plasma treatment of polymers: effects of energy transfer from an argon plasma and post-plasma storage on the surface chemistry of polystyrene
RICHARD M. FRANCE & ROBERT D. SHORT (UK)

347 Biodegradation of polycaprolactone by micro-organisms from an industrial compost of household refuse
F. LEFEBVRE, C. DAVID & C. VANDER WAUVEN (Belgium)

355 The oxidation mechanism of polypropylene: contribution of $^{13}$C-NMR spectroscopy
D. VAILLANT, J. LACOSTE & G. DAUPHIN (France)

361 Photochemical behaviour of semi-aromatic polyamides
RENÉ ARNAUD, ELIZABETH FANTON & JEAN-LUC GARDETTE (France)

371 Thermal oxidation of polyethylene in compost environment
M. WEILAND & C. DAVID (Belgium)

379 Enzymatic degradation of poly[(*R*)-3-hydroxybutyrate] by *Comamonas testosteroni* ATSU of soil bacterium
KEN-ICHI KASUYA, YOSHIHARU DOI & TADASHI YAO (Japan)

387 Thermal oxidative degradation of epoxy resins: evaluation of their heat resistance using invariant kinetic parameters
NATHALIE ROSE, MICHEL LE BRAS, SERGE BOURBIGOT & RENÉ DELOBEL (France)

399 Structure–property relationships in intumescent fire-retardant derivatives of 4-hydroxymethyl-2,6,7-trioxa-1-phosphabicyclo[2,2,2]octane-1-oxide
DAVID W. ALLEN, EDWYN C. ANDERTON & LESLIE E. SHIEL (UK)

409 Photo-transformation of pendant acyloxyiminino groups into vinylidene-type double bonds in copolymers of *O*-methacryloyl acetophenone oxime and styrene: structural analysis by $^{1}$H-NMR and $^{13}$C-NMR
KANJI SUYAMA & MASAHIRO TSUNOOKA (Japan)

415 Spin labelling of degraded polypropylene. Part I. Formation of oxazolidine nitroxide
PATRICIA CARLONI, LUCEDIO GRECI, ALEXANDER MAR'IN, GIORGIO TOSI & ANTONIO FAUCITANO (Italy)

423 The thermal degradation of copolymers of vinyltoluene and divinylbenzene
C. N. CAŞCAVAL & V. NEAGU (Romania)

429 Infrared spectra and dielectric properties of thermally treated soybean proteins
M. A. MOHARRAM, K. N. ABD-EL-NOUR & G. ABD-EL-RAOF (Egypt)

**Note**

435 IR spectrometric determination of concentrations of soluble and insoluble fractions of bis(2,2,6,6-tetramethyl-4-piperidinyl) sebacate in polymers: application to LDPE films
S. ZEHNACKER & J. MARCHAL (France)

441 Calendar of events